



Supplement of

Inducing banana *Fusarium* wilt disease suppression through soil microbiome reshaping by pineapple–banana rotation combined with biofertilizer application

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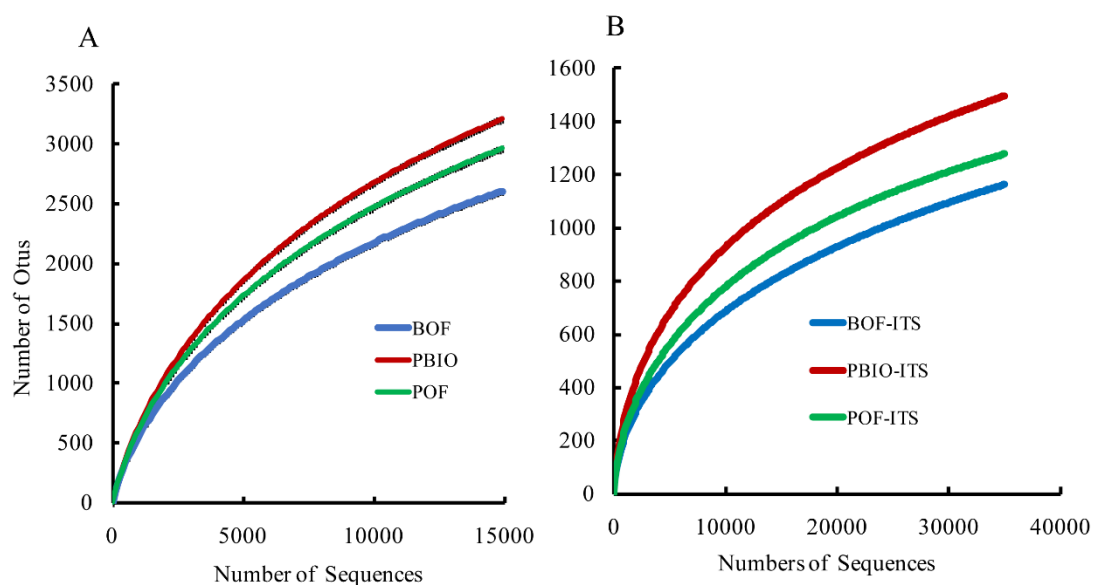


Fig S1 Rarefaction analysis at 3% dissimilarity levels for soil samples collected from BOF (banana continuously cropped for two years with common organic fertilizer applied); POF (banana planted after Pineapple rotation with common organic fertilizer applied in banana season) and PBIO (banana planted after Pineapple rotation treatment with Bio-organic fertilizer applied) treatments.

Table S1 The statistical table of the disease incidence

| | | Repeat 1 | Repeat 2 | Repeat 3 | Repeat 4 | Repeat 5 | Repeat 6 | Repeat 7 | Repeat 8 | Repeat 9 |
|------|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| BOF | Total plant | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| | Disease plant | 47 | 53 | 50 | 53 | 49 | 46 | 53 | 50 | 50 |
| | Disease incidence (%) | 62.67 | 70.67 | 66.67 | 70.67 | 65.33 | 61.33 | 70.67 | 66.67 | 66.67 |
| PBIO | Total plant | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| | Disease number | 8 | 12 | 7 | 9 | 11 | 8 | 10 | 9 | 9 |
| | Disease incidence (%) | 10.67 | 16.00 | 9.33 | 12.00 | 14.67 | 10.67 | 13.33 | 12.00 | 12.00 |
| POF | Total plant | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 |
| | Disease number | 25 | 22 | 27 | 22 | 28 | 25 | 24 | 28 | 24 |
| | Disease incidence (%) | 33.33 | 29.33 | 36.00 | 29.33 | 37.33 | 33.33 | 32.00 | 37.33 | 32.00 |

Table S2 Physical-chemical properties of soil from different treatments

| Treatments | pH | NH ₄ ⁺ -N (mg/kg) | NO ₃ ⁻ -N (mg/kg) | TK (g/kg) | AK (mg/kg) | TP (g/kg) | AP (mg/kg) |
|------------|------------|--|--|--------------|---------------|--------------|---------------|
| BOF | 5.11±0.13b | 6.19±1.23a | 8.67±2.57a | 0.70±0.29b | 137.22±71.5b | 1.41±0.37a | 75.55±7.0a |
| PBIO | 5.83±0.14a | 4.98±0.65b | 7.35±0.84a | 1.46±0.08a | 295±14.39a | 0.93±0.18a | 74.44±3.28a |
| POF | 5.33±0.15b | 4.68±0.53b | 9.25±1.46a | 1.36±0.07a | 306.11±72.27a | 1.14±0.2a | 75.67±6.41a |

Note: BOF=Banana continuously cropped for two years with common organic fertilizer applied, POF= Banana planted after Pineapple rotation with common organic fertilizer applied in banana season; PBIO=Banana planted after Pineapple rotation treatment with Bio-organic fertilizer applied. Values represent the average index across the nine replicate libraries for soil samples collected from each treatment. Means followed by the same letter for a given factor are not significantly different ($P < 0.05$; Duncan test).

Table S3 Fungal Phyla which significantly related to relative abundance of FOC

| | <i>Ascomycota</i> | <i>Fungi_unidentified</i> | <i>unclassified_Fungi</i> |
|----------------|-------------------|---------------------------|---------------------------|
| R ² | 0.184 | 0.277 | 0.265 |
| <i>p</i> | 0.026 | 0.005 | 0.006 |

Table S4 Bacterial Phyla which significantly related to relative abundance of FOC

| | <i>Proteobacteria</i> | <i>Actinobacteria</i> | <i>Verrucomicrobia</i> | <i>Planctomycetes</i> | <i>Nitrospirae</i> | <i>Chlamydiae</i> | <i>Gemmatimonadetes</i> |
|----------------|-----------------------|-----------------------|------------------------|-----------------------|--------------------|-------------------|-------------------------|
| R ² | 0.421 | 0.37 | 0.433 | 0.312 | 0.251 | 0.326 | 0.267 |
| <i>p</i> | 0 | 0.001 | 0 | 0.002 | 0.008 | 0.002 | 0.006 |